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CASE OF EXTRA-UTERINE FŒTATION.

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[Communicated for the Boston Medical and Surgical Journal.]

ON the 13th inst., about 7, P. M., I was called on by I. M., who informed me that his wife was in extreme pain from a severe attack of colic, and requested my immediate attendance. Upon arriving at her residence, I found her writhing in agony with pain, as she said, in her bowels, and which had then continued about three hours. The abdomen was considerably swollen and tender to the touch—the surface rather cold and bedewed with a clammy sweat—the stomach nauseated, but not attended with vomiting—and the patient generally, very restless. She said that she had been as well as usual during the day, and had discharged her ordinary household duties without difficulty until about 4 o'clock, P. M., when the pain with which she was now suffering commenced. She asserted that she was not pregnant, and had not been for the last ten years, though she had not menstruated for the preceding two months. She possessed a good constitution, generally enjoyed good health, about 30 years of age, and had had but one child, who was now ten years old.

I prescribed pills of opium and camphor, to be continued till the pain was controlled, and stimulating frictions to the extremities for the purpose of exciting cutaneous action.

At 7 o'clock, next morning, the husband informed me that his wife (whom I had not seen a second time, as she lived a considerable distance from my residence) had been much relieved of her pain by the pills, but was in a very low and critical condition. Upon arriving at her house, at 8 o'clock, I found her *dead*—having expired a few minutes before.

At 12 o'clock, I made a *post-mortem* examination, in the presence of my office students. The abdomen was very much swollen, but presented no symptoms of tympanitis upon percussion. When the abdominal parietes were divided, a large quantity of blood escaped, and upon examination the whole cavity was found to be filled with it—while several large coagula were scooped out from its lower part. All the viscera of the abdomen appeared perfectly healthy. When the blood was nearly all removed, and the intestines retracted, the cause of all this mischief was immediately perceived, in the shape of a well-formed fœtus of about

two months, laying loose in the pelvis, and connected to its placenta by a cord of the ordinary length. It was an extra-uterine pregnancy, the fœtus being obviously contained in the Fallopian tube of the left side, which had just burst from the increased size of its contents, and had thus given rise to the fatal hemorrhage. The uterus was slightly enlarged, and upon slitting it open, was found lined with the membrana decidua, which, according to our standard authors, is usually found in such cases.

Washington, July 17th, 1843.

SEMINAL WEAKNESS—CASTRATION.

[Communicated for the Boston Medical and Surgical Journal.]

NOVEMBER 5, 1842, I was called to visit Mr. —, aged 22 years, whose health had been declining for more than six years. He had secluded himself almost entirely from society, and even from his family—had not eaten with them for four years—had not been in the street more than twice for two years, and for the last year had kept himself mostly in bed. I found him pale, trembling and dejected—pulse frequent and feeble—appetite bad—digestion impaired, and rather emaciated. At first he was unwilling to give much account of himself, but after a few visits I obtained the following history of his case. About the age of 13 years he began to masturbate, and, urged by his companions, he practised it some time before he produced an emission. After this he continued the habit more and more frequently, until he would perform the operation every day for several weeks in succession, and very often twice a day. At the age of 16 his health was so much impaired he was obliged to suspend all labor and active exercise, and had not been able, at the time I first saw him, to resume either. After this time he says he did not practise masturbation *much*, but had been constantly troubled with involuntary discharges—that the emissions had become painful and extremely prostrating. I learned from his friends that he had been attacked twice with furious delirium—both attacks were of short duration—had frequently secreted himself from his family, so that they were alarmed with fears that he would commit suicide.

During the first four years of his sickness he was drugged with all sorts of medicines, for all sorts of diseases, by all sorts of doctors, and all the time grew worse, no one ever having suggested to him the true nature of his disease or the cause of it.

With very little expectation of benefiting him with medicine, I prescribed bals. copaib. and tr. cantharid. combined, carb. of iron, cold bathing to the hips and loins, and cold water injections into the rectum; but finding no impression was made by this method of treatment, and that the nocturnal emissions were so frequent and so exhausting, I did not think it advisable to continue the use of ordinary remedies to cure so desperate a disease. Believing the great constitutional disturbance to have been produced and kept up by the severe and often repeated shocks given to the brain and nervous system by the seminal emissions, and that removing the

testicles would remove the great source of difficulty, I recommended castration, with the confident expectation that it would prove successful. He was so miserable, and life itself had become such a burden to him, that he was not only willing to submit to the operation, but urged me to perform it—which I did on the 29th of November.

There was profuse hemorrhage from the right side of the scrotum during the night after the operation, which greatly reduced him. The healing and recovery from the operation were very slow; and the winter being very cold, there was but little apparent improvement in his general appearance until warm weather was established. Since that time, he has improved rapidly. He has now the appearance of good health—is cheerful and happy—can walk miles with as much ease and elasticity as any one, and, with every prospect of good health and a life of usefulness, he is actively engaged in making arrangements to go into business. For some months after the operation he had a weeping of prostatic fluid; but so soon as his general health improved, this trouble disappeared, and he has nothing of it at this time.

There was about two drachms of serum within the vaginal coat of the left testicle. The tunica albuginea testis was pale and flabby. The vessels of this coat in the right testicle were very much injected, showing considerable inflammation—there was no effusion.

Now as to the propriety of this operation for the removal of such a disease, I admit there may be much doubt. Cauterizing the urethra was not tried, for the want of a proper instrument. This operation, however, is not successful in more than three fourths of the cases, when it is resorted to under the most favorable circumstances, as appears from the cases reported by Mr. Phillips, of the St. Marylebone Infirmary. The parents of this young man were poor—had made many expensive trials to cure him without success, and had determined to make no further effort. From these considerations I was induced to operate—and the happy change produced in the patient, and the great relief afforded to the family, are abundant evidence of the propriety of the operation in this case.

JOSIAH CROSBY.

Meredith Bridge, N. H., July, 1843.

THE FAILING OF SIGHT.

To the Editor of the Boston Medical and Surgical Journal.

SIR,—The failing of the sight is not an insulated phenomenon. The other senses partake of the same change. The same blur pervades them all, and spectacles are as much needed by the other senses as by the sense of sight. At 45 years of age, or thereabouts, people observe that they cannot read, or do any fine or delicate piece of work, as well as formerly. They may also observe that they cannot learn a piece of music, or sing and play a new tune, as well as formerly. The senses of touch and hearing have both failed in as great a degree as the sense of sight. If it were the sight only that had failed, a person could as well learn to sing, or

to play a new tune in music, at 45 years of age, as at the age of 12 or 16. A very little observation and experimenting will convince every one that the senses of hearing and touch are not as lively at 45 years of age as at 12 or 16. There is a greater effort made to ascertain the truth of these sensations than at an earlier period of life. The pleasures of sound and of touch are both diminished in a degree very perceptible, though not so fully realized as the change in the sense of seeing. No art on which the external senses are particularly employed can be learned with the same ease as in early life. The change in the senses of smelling and taste not so obvious as in the other senses; though I think it must have been often observed that it takes a person who has failed in the sense of sight, a longer time to ascertain the qualities of an article by the senses of smelling and taste than it does a young person. Such persons are more apt to appeal to the senses of others in questions of doubt. Old persons choose the most sapid and stimulating articles of food as well as of drink. Snuffs and pungent odors are favorite pleasures in old age.

Some have attributed the failing of sight to a mere change in the shape of the eye; but this would only change the *point of distinct vision*, as in any other lens. We should only have to hold an object at a little farther distance than usual, in order to see as well as ever; but the fact is, we cannot see so well in the same degree of light at any distance as in youth. There is an organic change in the whole substance of the eye. Its transparency and sensibility are both diminished.

All the motions of the body and of the mind are slower at 45 years of age, than at 20. It is much more difficult to run, or leap, or dance, at that age, than at an earlier period of life. The pulse is slower, and the train of ideas is also slower. It takes a longer time not only to see, but to hear, to feel, to taste, to smell, and to think. Both the internal and external sensations are slower, and excited with more difficulty. The secretions are also more unfrequent.

About this time, the hair, in both sexes, begins to become gray, and the menstrual discharge ceases in women. These changes are commonly regarded as insulated phenomena, as if a numberless variety of causes were at work in the system to produce them. I think they are all attributable to the same cause, viz., to a diminution in the momentum of the arterial blood. The motion of the blood I take to be an ultimate fact, beyond which our inquiries cannot go. The action of the heart expresses the force of the arterial blood. At that time of life when the sight begins to fail, the arterial blood is not sent into the extremities of the arteries with the same force as in youth. All action of the nervous system, as well as of every other structure, depends upon the frequency of a fresh supply of blood. The greater the frequency of a fresh supply of arterial blood, the greater must be the activity of every organ and structure of the body. The arterial blood is the sap of the system, and performs the same office in the human system as the sap does in the tree or vegetable. If the arterial blood does not visit the extreme vessels with its accustomed celerity of motion, the same result must follow under all

circumstances, viz., a diminution of activity in the part. The menstrual discharge does not cease in women because they have borne all the children they can bear; for it ceases about the same time in those who have never borne any. The hair does not turn gray because the person is forty or fifty years of age; for age is not the cause of anything. To suppose the sight to fail because the person is growing older, is very much like supposing the tide to ebb and flow because it approaches near the time set by the almanac for such an event.

People immediately become sensible of the least failure in the sight. They have almost an exact measure of it, in the distance at which they usually hold an object in order to examine it; but they have no such measure of the failing of the other senses. The fact, however, is capable of proof. The cessation of the menses corresponds very nearly in point of time with the failure of sight, though the change in the color of the hair sometimes happens at an earlier period, but this may be owing to its peculiar structure. All these phenomena appear to me to belong to the same class.

The human system is supposed to have reached its greatest perfection at the age of 35, though in many individuals, probably, at a much earlier period. The heart probably attains to its maximum of force, and the blood circulates with its greatest momentum, about this period. The phenomena I have enumerated rarely occur until after this period, when the force of the pulse has begun to abate. An abatement of only a single beat or two in the pulse may be sufficient to induce the commencement of all those changes I have enumerated. In old age the pulse beats only sixty times in a minute, and may be regarded as a true index of all the other motions of the system. The sensations are excited at the same slow rate, and the train of ideas moves on in the same ratio.

It is an old saying that gray hairs are a sign of wisdom. If the train of our ideas becomes slower, and therefore more distinct, and capable of being more accurately examined, by the same cause which produces gray hairs, there may be a good foundation for the old proverb. To make the proverb scientifically true, however, its meaning must be restricted to the different periods of the same person's life. In some people, the same quickness of sensation and flow of ideas continue into old age, but I believe such people are never remarkable for wisdom. The hurry of their ideas and sensations, prevents a proper comparison and selection of them, and the judgment never improves. If the same rapidity in the succession of our sensations and ideas, which exists in youth, should be continued into old age, I imagine the world would never become remarkable for its wisdom. For wisdom evidently depends not less upon a moderation in the succession of our ideas, than upon the amount of ideas already acquired.

If all the senses undergo a similar change with the sense of sight and at the same time, it becomes a question of some importance whether the testimony of a person, in a court of law, whose sight is so far diminished as to require the help of glasses, is as valid as the testimony of a younger person. So far as it respects the sight, I suppose that most people are

aware of the difference ; but in reporting conversations and sounds, I am not aware that any distinction is made between the testimony of a person of 25 and a person of 50 years of age ; yet in all cases where the senses are employed, *cæteris paribus*, the young person's testimony is the most to be relied upon. The young person can see and hear at greater distances ; he can feel, taste and smell with more nicety and with more accuracy. This subject certainly deserves a more scientific investigation than it has hitherto received. Many good rules in the conduct of life might be derived from it ; and a knowledge of our true capacities very much extended.

This failing of the senses is, in some measure, recompensed by the greater degree of health and enjoyment which most nervous people experience when they arrive at this period of life. Those who have been troubled with an excess of sensibility in earlier life, may now hope for better days ; nor is this hope often disappointed. An improvement, in nervous diseases, is almost always experienced. In a word, we have more wisdom to conduct the affairs of life, and less inclination to indulge in those excesses which ruin our health and impair our faculties. Physical changes do for us now, what the wisdom and advice of others ought to have done for us years ago.

D. B. SLACK.

Providence, July 29th, 1843.

THE PLEA OF INSANITY IN CRIMINAL CASES.

[We continue our extracts from the British and Foreign Medical Review on this interesting subject. The following remarks refer chiefly to the late trial of M'Naughten for the murder of Mr. Drummond—a trial which, in consequence of the uncertain nature of the evidence in proof of insanity, and of the prisoner's acquittal on the ground that he was insane, has excited more attention than any other of modern times.]

We consider it unnecessary to detail the facts of this case ; they are so recent that they must be familiar to the whole of our readers. We shall here offer only a few remarks on the defence : this was to the effect that at the time the accused perpetrated the act he was laboring under homicidal monomania. It was deposed to by many witnesses that the prisoner was latterly of a sullen and reserved character ; that he imagined himself to be the object and victim of the most unrelenting persecution ; that he was surrounded by persons who had formed a conspiracy against his comforts, his character, and even his life ; and that wheresoever he went these persons still pursued him, and gave him no rest either by day or by night. It also appeared that he imagined the deceased, who was a perfect stranger to him, to be one of his persecutors, and that it was necessary that he should fall a sacrifice in order to free him from persecution. There was no proof of intellectual insanity about him, if we except the existence of these delusions ; and it was admitted by all that he was shrewd in business transactions, that he was fully competent to the

management of his affairs, and had realized a considerable sum of money by his own industry in trade.

These were the principal points in the defence ; the remainder of the evidence in favor of insanity being made up by the opinions expressed by the medical witnesses. We will now compare this evidence with those characters which have been assigned by Prichard and others as proofs of homicidal monomania. We have already expressed our opinion that these characters are loose and vague ; but the council for the defence chiefly based his arguments in favor of the prisoner's insanity upon them. There had been certain peculiarities of conduct and absurd delusions ; the man was of a morose and reserved disposition, but we do not collect from the evidence that he had ever attempted suicide. It does not appear that he was ferocious or cruel ; his counsel dwelt much on his humanity to the brute creation, a fact, which, in his view, did not accord with the ferocity of a sane assassin. In this view we have a good example of legal ingenuity ; for one strong feature of moral insanity, leading to homicidal madness, is cruelty or ferocity of disposition ; so that some physicians have given to it the name of brutality. Thus it will be seen that the very reverse of the usual condition was received without comment as a proof of the existence of homicidal madness. In the language of Mr. Rumball, there was no indication of diseased destructiveness about him. We put no great stress upon this, one way or the other, or upon the absence of the suicidal tendency before and after the crime ; but it shows that the proofs of homicidal insanity are of so ambiguous a character that a barrister may select either of two opposite conditions in favor of his argument.

Next we come to *motive*. There was no apparent motive on the part of the prisoner in shooting Mr. Drummond ; but we think we have said sufficient to show that this should not be received as evidence of insanity ; it merely makes out a *prima facie* case for inquiry. Further, it was argued by the counsel for the defence :

"The manner in which the murderer sets himself to the consummation of his crime, as well as his subsequent conduct, is very different from the proceedings of a madman. The former often has accomplices ; he commences with premeditation, lays a plan before hand, chooses time, place and circumstances adapted to the perpetration of the deed, and generally has contrived some way of escape. He always studies concealment and personal safety, and when there is danger of detection, uses all possible despatch to escape the punishment due to his crime. All these particulars are reversed in the proceedings of the madman.....A common murderer would have acted in a different manner, he would have chosen a different time, a different place, he would have sought safety by escape."

It is with something like dread that we witness these displays of forensic eloquence and ingenuity in questions of criminal responsibility. While, on the one hand, they may lead to the acquittal of one who is responsible ; on the other, they may bring about the condemnation of an irresponsible agent : this is a pure matter of accident, depending on the fact of whether

the ability be displayed on the side of the prosecution or defence. In the quotation which we have above made from Mr. Cockburn's speech for the prisoner, we have what appears to be well-marked points of difference laid down; although he had just before adduced and commented in favor of his views upon cases which completely overturn the differences thus sought to be established! Thus Hadfield's case is quoted among the instances of homicidal insanity; but probably there never was an attempt made upon life, in which there was greater premeditation, precaution, or a better choice of time, place and circumstances, than in the attack made by this monomaniac on the life of George the Third! We also think it is obvious that if a man, whether sane or insane, have the design to shoot the sovereign, a minister of State, or any great public character, he can seldom have an opportunity of doing this except in public, and therefore under circumstances in which any attempt at escape would be commonly futile. With respect to accomplices, it is true that we never find them in cases of homicidal monomania, but they are also generally wanting in crimes of peculiar atrocity and magnitude. The cases of Greenacre, Good, Courvoisier, and others, afford a sufficient proof of this fact. M'Naughten made no attempt to escape, or to deny that he had shot the deceased: this, as we have already observed, is a pretty uniform character of homicidal monomania; although a question might have arisen as to what he would have done, supposing he had not been seized in the act of discharging a second pistol. Still, however, allowing the prisoner the full benefit of this point in his favor, we must protest against this being drawn, as it was in this instance, into an absolute proof of homicidal monomania.

It is well known that when murder is committed through the motives of passion or revenge, whether apparent or concealed, there is frequently no attempt made to conceal or deny the crime, there is no attempt at escape, and yet such persons are made responsible for their acts.

The only other point in the legal defence upon which we have to offer a remark is this, that the counsel adopted Lord Erskine's doctrine, i. e., in order that there should be irresponsibility, two facts must be proved: 1, that there should be delusion; 2, that the act of homicide should be connected with the delusion. Admitting that the first point was proved in M'Naughten's case, we do not see how in any part of the defence the delusion was brought to bear upon the deceased as an individual. It was urged that the prisoner considered him to be one of his persecutors; but he was a perfect stranger to him, and therefore the prisoner might as well have shot any other person in the Queen's dominions; for it was of course a matter of accident as to who might appear to him to be his persecutors. From the decision of M'Naughten's case, then, we infer that there may be the most broad and unrestricted application of this principle relative to the connection of the act of murder with the delusion.

Eight medical witnesses gave evidence on the prisoner's state of mind. They all agreed that at the time he committed the act he was laboring under a delusion, and that he was led on by an impulse so irresistible, that nothing but a physical impediment could have prevented him from

committing it. (Dr. Hutchenson.) It is remarkable that questions were allowed to be put to the witnesses on this trial, which have seldom been permitted on former occasions. Thus some were asked whether they considered the prisoner responsible for his actions—a question which has been hitherto left to the jury to decide from the medical and other evidence adduced in the case. There are strong objections to this mode of examination, for it is like placing the issue of guilty or not guilty in the hands of the medical witnesses; and we attribute to this, the great public dissatisfaction expressed at the verdict in M'Naughten's case. So long as a prisoner, or those who act for him, are allowed to select the medical witnesses, who are to speak to his state of mind, we think it would be at least prudent not to permit questions to be put in this form. If the witnesses are really independent, and they might easily be made so for this purpose, there could be no objection to the prisoner's having the benefit of their opinion under these circumstances. But it is obvious that the counsel for a prisoner would never summon any witness who could not speak in his favor; and if what this witness is to deliver under the name of evidence substantially includes the verdict of the jury, we do not see why the prisoner and his friends should not be at once allowed to select their own jury. Let us suppose in a case that twenty medical witnesses are appealed to, and while one half agree that the case was one of insanity, the other half do not; it is very clear that only the ten first witnesses would be called for the defence; and, unless an equal amount of industry was displayed on the part of the prosecution, the verdict must be carried in the prisoner's favor. It will be impossible, we think, to eradicate the suspicion of unfair dealing on these occasions so long as this bad practice is adhered to. The result concerns the country, and if medical witnesses are in any case to assume the functions of the jury, their selection should lie with the country and not with the prisoner. In this case the evidence was felt to be so conclusive in favor of the existence of homicidal monomania, that the jury under the direction of the judge acquitted the prisoner on the ground of insanity.

The case of M'Naughten has called forth many comments, a strong impression having existed, both in and out of the profession, that the plea of insanity had been stretched to an improper extent. On this point most men will of course form their opinions according to their reading and experience on the subject; nor will these opinions be much influenced by what is said by journalists and reviewers. In accepting the verdict of the jury as the only verdict which the medical evidence would warrant, we are bound to state that in our judgment there is no case on record, if we except that of Oxford, where the facts in support of the plea of insanity were so slight; and when we reflect upon the cases of Bellingham, Lees, and Cooper, the last two tried at the same bar and executed within the last few years, we feel that there is both uncertainty and injustice in the operation of our criminal law. Either some individuals are improperly acquitted on the plea of insanity, or others are most unjustly executed.

This state of things requires to be remedied; it is wholly inconsistent

with our views of justice, that the acquittal or conviction of supposed lunatics on capital charges should depend not on the merits of their respective cases, but on the ability and ingenuity of counsel, and the metaphysical speculations of medical witnesses upon the question of criminal responsibility. One case becomes a subject of prominent public interest, and every exertion is made to construe the most trivial points into evidence of insanity; an acquittal follows. Another case is left to itself; and, as the line of demarcation between sanity and insanity is scarcely appreciable without good legal and professional assistance, the accused is necessarily convicted, and either executed or otherwise punished; although the proofs of insanity, had they been as carefully sought for and brought out, would have been as strong in this as in the former instance. In point of fact, there is no more stability in judicial decisions than there is in medical evidence; and we think that one great improvement in the present system would be to leave the question as to the state of the mind only to the medical witnesses; and that of responsibility and punishment for the act, to the judge and jury.

M'Naughten's case has certainly proved that there is a very narrow line which separates crime from insanity; and the expressed intention on the part of certain members of the Legislature to bring forward some preventive enactment shows that there is at least a well-founded dread that after the result of this trial, the plea of insanity may be carried too far. The verdict has completely overturned the old doctrine of implied malice in law; for, after this, how can a person be convicted of murder for killing one who is wholly unknown to him? If a man wilfully, and without provocation, fired a gun into the midst of a crowd and killed a person, this was formerly held to be murder, since the act was considered to imply malice against all mankind; but it might now be fairly contended, the individual was not responsible; "he had no accomplices, he had no motive for the act, he did not watch his opportunity and kill the person secretly, he laid no plan for his escape, and did not attempt to escape after perpetrating the crime; he made no denial of the crime, but calmly resigned himself to his fate." This is the substance of Mr. Cockburn's defence in M'Naughten's case; and, taking this as a precedent, such a defence would probably lead to an acquittal under the circumstances above supposed, on the ground of insanity. It might be contended that an act so committed would of itself always indicate insanity; we, however, would say that the act might sometimes depend on moral depravity, and that then the perpetrator should be dealt with differently to one who killed another in a fit of delirium, or during a paroxysm of mania.

CAUSES OF DECAY IN HUMAN TEETH.

[A work on the "Structure, Economy and Pathology of the Human Teeth," &c., by Wm. Lintott, Surgeon, has recently been published in London. The following remarks on the production of decay are copied from it.]

My own opinion with regard to the formation of decay is founded upon the endosmotic phenomena which I suppose to be taking place in the structure of the tooth. Thus, as no bloodvessels are traceable into the texture of the ivory, I conceive that the animal part of this structure derives its nutrition from the colorless liquor sanguinis imbibed by the tubuli from the vessels of the pulp. This mode of nutrition is seen in various of the tissues of the body, as, for instance, in cartilage, in the cornea, &c. That the tissue of the tooth is imbued with fluid is evident from its solidity and color; and also from its difference of weight in the fresh and dried state. This fact may be easily illustrated by immersing a dried tooth in water, when it is observed to absorb a considerable proportion of the water, and become materially changed in its density.

Now I think that I am warranted in inferring that the nature of the fluid permeating the tooth from the vessels of the pulp is, in the normal state of the system, always similar.

On the other hand, the crown of the tooth may be regarded as being immersed in the salivary fluid by which it is constantly surrounded, and, as we know, this fluid undergoes a change from alkaline to acid by simple exposure to the influence of atmospheric air within the mouth. Again, from containing a large proportion of nitrogen, the saliva is constantly subject to a change in character from decomposition; and, lastly, the fluids of the mouth are obviously very much affected by the state of the stomach, and disease of various kinds.

Now, in the above statement we have the precise conditions which are best calculated to induce an active endosmosis; an alkaline fluid contained within the tubular texture of the tooth, an acid fluid externally, the two being separated by an animal tissue. To question the existence of endosmosis under such circumstances would be to dispute the first principles of physiological science. But what, asks my reader, are the results which I deduce from my positions? They are important, and the following:—In the first place, it is by this process that the color of the teeth is altered in disease; that they become yellow and discolored during illness by the transudation or endosmosis of discolored and morbid fluids. And by the same process they are capable of regaining perfectly their original and wonted whiteness.

Secondly, I regard this endosmosis as the means by which the calcareous matters are first dissolved, and secondly removed in a state of solution from the tubuli, leaving behind only the animal texture of the ivory, and thus establishing decay. I may be asked why, admitting my proposition, the decay should be localized to a single spot? Why should not all the tubes be affected similarly and simultaneously? My reply is, that the part most likely to be attacked, and that which under the above circumstances I believe to be affected, is one which is already placed in a morbid condition, either by imperfection of development or by injury to the tubular structure from pressure, &c.

The first indication of the existence of decay of the ivory of the tooth is a slight discoloration, which is perceptible through the semi-transparent enamel.

Decay progresses much more rapidly in some individuals than in others. The bone becomes softened by the removal of the earthy or calcareous part, leaving the organic or animal part behind, and is destroyed in a direct line from the surface towards the centre of the tooth, in the course of the tubuli. The base on which the enamel rested is thus removed, some accidental pressure in masticating bears upon the spot, the enamel breaks down, and a cavity is suddenly found to exist in what had probably, hitherto, been deemed, by the unsuspecting owner, to be a sound tooth.

It must have attracted the attention of every practical dentist that one situation in the tooth is remarkably subject to decay; I allude to the deep groove which exists upon the surface of the crown of the molares, and forms the line of separation between the tubercles. The first indications of decay are almost constantly perceived in this situation, and in the course of a groove which is frequently found on the outer side of the first molar of the lower jaw.

In reasoning upon the probable cause of the frequency of decay in these situations, I was at first led to infer that the diseased action must depend upon the collection of fluids and upon the decomposition of alimentary matter in these grooves. But I must confess that this explanation, although undoubtedly partly applicable to the morbid process, was far from satisfactory when I reflected that the decay occurred as frequently in the teeth of the upper as of the lower jaw; that it affected several teeth simultaneously; and was not unfrequently absent in the lower while it was present in the upper jaw.

Finding, from repeated observation, that in teeth affected in the manner above described, the structure of the enamel was unnaturally brittle, and that the disease followed very accurately the line of the depressions on the crown, I was led to the opinion that the extreme susceptibility to diseased action must depend upon defective formation in this part of the tooth, and further investigation has served to convince me that this is really the case.

The mode of formation and growth of the tooth described by Mr. Goodsir throws considerable light on this point, and affords an explanation of the phenomenon which, to my mind, is perfectly satisfactory.

By referring to Mr. Goodsir's explanation of the production of the form of the upper surface of the crown of the tooth, it will be seen that this depends upon the development of a number of opercular processes corresponding with the number of the tubercles of the tooth. These opercula meet at a line corresponding with the future groove upon the crown, and at this point become joined and continuous with each other, so as to constitute a single membrane, by the vessels of which the enamel fibres are secreted. Now, if we suppose these opercula, in consequence of interference in development, to approximate only partially and imperfectly, or to unite and form a cicatrix, insufficiently supplied with blood-vessels, the natural consequence must be an improperly formed enamel, and one susceptible of falling an easy prey to the chemical influence of the decomposing fluids lying in contact with it and imbibed into its texture.

Such, in my opinion, is the real cause of decay so constantly happening in the situation referred to—a morbid process, which, it will be observed, differs from the ordinary course of disease by commencing in the enamel and thence extending to the ivory, and not, as is usually the case, affecting first the ivory and secondarily involving the enamel.

[*Unequal lateral pressure* is also considered by Mr. L. as one of the principal exciting causes of decay.]

FOREIGN BODY IN THE BRONCHUS.

[THE following is a more particular account of the case referred to on page 425 of the last volume of this Journal. It was read by Sir B. C. Brodie before the Royal Medical and Chirurgical Society, in London, on the 27th of June last.]

The author's object in this paper was to describe a case in which a half sovereign was lodged in the right bronchus of the patient for a period of thirty days, and in which certain novel measures adopted for its removal proved successful. It was on the 3d of April, while the patient, Mr. B., was amusing some children, that the coin which he had in his mouth accidentally slipped into the trachea. The symptoms which succeeded were principally occasional severe fits of coughing, and a sense of pain referred to a part of the chest corresponding to the situation of the right bronchus. No particular sounds were detected by the use of the stethoscope. The patient was able to pursue his usual avocations, and made two journeys into the country. On the 19th of April, having placed himself in the prone position, with the sternum resting on a chair, and his head and neck inclined downwards, the patient had a distinct perception of a loose body slipping forward along the trachea; a violent convulsive cough ensued, and, on resuming the erect posture, he again had the sensation of a loose body moving in the trachea towards the chest. An apparatus of the following kind was now constructed. A platform, on which the patient could lie prone, was made to move on a hinge in the centre; so that on one end of it being elevated the other was equally depressed. On the 25th of April the patient was laid on this apparatus, with his shoulders and body fixed by means of a belt, and his head was lowered to an angle of nearly 90 degrees with the horizon. His back was then struck several times with the hand, but violent fits of choking were brought on each time, and it was not deemed prudent to continue the experiments. On the 27th it was agreed in consultation to make an opening in the trachea, between the thyroid gland and the sternum. In proposing this, the object was two-fold: 1st, that an attempt might be made to extricate the coin by the forceps; 2d, that if relief could not be obtained in this manner, the artificial opening might answer the purpose of a safety valve, and the experiment of inverting the body on the platform be repeated without the risk of causing suffocation. The operation having been performed, several attempts to extricate the coin were made, but without success; and, on each introduction

of the forceps, paroxysms of convulsive coughing of such a violent kind were brought on, that it was plain that the attempts could not be persevered in without danger to life. On the 2d of May, a renewal of these trials was followed by the same results. On the 13th, the wound in the trachea having been kept from closing by the occasional introduction of a probe, the patient was placed on the moveable platform as described before; his back was then struck by the hand; two or three efforts to cough followed, and presently the patient felt the coin quit the chest, striking, almost immediately afterwards, against the incisor teeth of the upper jaw, and then dropping out of the mouth. No spasm of the muscles of the glottis took place; a small quantity of blood was ejected at the same time, apparently coming from the granulations of the external wound. From this date the patient proceeded rapidly to get well.

The author concluded by making observations on the following heads: 1st, on the influence of the size, weight and form of a foreign body introduced into the windpipe, in modifying the symptoms; 2d, he referred to experiments which showed that a heavy body, like the coin in the present case, was most likely to drop into the right bronchus; 3d, he adverted to the want of success attending the use of the stethoscope in this and in some other cases of the same kind; 4th, he pointed out the reasons on which he had founded his opinion, that the artificial opening made in the trachea would prevent spasm in the glottis, and thereby give greater chance of success to the experiment of inverting the patient's body on the moveable platform; lastly, he dwelt on the difficulties and dangers attending the use of the forceps, when a weighty body is lodged deeply in one of the bronchi, as was the case in his patient.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

AUGUST 9, 1843.

The Hot Springs of Virginia.—Throughout North America, the evidences of great geological revolutions, by the combined agencies of volcanic fires and water, are strikingly manifested. Although mighty furnaces, in the deep recesses of the earth, belch out terrifically, at times, in some parts of the old world, there have been no alarming disturbances from that source in this country, since its occupancy by civilized man. When the safety valves are in disorder, there is a trembling of the mountains, but the earthquake has not yet been characterized by that destruction which marks its progress in equatorial regions. But all former upheavals from below, and the supposed surgings of a restless ocean over the now beautiful landscape, were doubtless only the necessary preparations for the advent of our race. As though contemplating the infirmities incident to humanity, nature established her laboratories underneath the rocks, which are inaccessible and mysterious fountains of

health, but whose waters are urged upward to the surface with unabated force, from age to age, to which she invites us to go—to wash and be clean, to drink and be well.

Saratoga has its interests: its medicinal waters are peculiar, and in some respects unsurpassed; but if the traveller marvels over Congress Spring, or wonders at the singular combination of mineral substances suspended in the Iodine and the neighboring fountains, how much more exciting are the phenomena connected with the present condition and early history of the range of medicated mountain rills of Virginia. Without particularizing the virtues of either at the outset, there are considerations in regard to the condition of some of them, that should not be overlooked either by the tourist or the physician. Almost on the pinnacle of a lofty mountain in western Virginia, there gushes up from the ground a large and unceasing flow of warm water. This is the celebrated Warm Spring. Five miles farther west, on a gradually descending stage road, is another, of universal celebrity—the Hot Spring. It is rightly named, for there is an inexhaustible fountain of hot water continually forcing its way to the surface—always raised to the unvarying temperature of 106 degrees. The fact is assumed by all intelligent visitors, that this water is heated by a subterranean fire, at no great distance from the surface. The water percolates from the sides of the mountain down through fissures, till it ultimately collects in a vast body in a series of lime-stone caverns, from whence it is raised by a constant hydrostatic pressure, the principles of which are well understood. Professor Rodgers, of the University of Virginia, supposes that it is possible the water is brought in contact with heated rocks at the depth of five hundred feet. Certain it is, therefore, that a volcano is quietly burning at the base of the mountain, the chimney of which is filled with water, and that accounts for its impregnation with sulphur, &c.—the characteristic of nearly all the Virginia springs. Dr. Goode, the owner of the Hot Spring, an eminent practitioner residing on the premises, whose acquaintance with the philosophy of thermal waters is most extensive, is satisfied that a large lake of hot water once filled the present valley—and lasted so long that its original boundaries are recognized at the present day on the sides of the mountain. When the principal bath was excavated (the site having been selected on account of the circumstance that the snow always melted away soon after it fell on that spot), the laborers came to a large rock, which sank almost as quickly as a little of it was exposed. The men sprang out of the pit in the greatest state of alarm, declaring to Dr. Goode that they heard it roll onward and downward, from point to point, for more than a hundred yards, till the sound died away in the fathomless abyss below.

However much these considerations may fall within the province of the geologist, they are of general interest also to the student of nature. The study of medicine embraces an extensive field, since all the remedies at our disposal are drawn only from three sources—and an essential one is the mineral kingdom. Many of the best preparations are but poor imitations of nature. Her manufacturing warehouse is under ground, where she elaborates inexhaustible quantities of medicine, admirably calculated for overcoming and removing a multitude of maladies to which our bodies are incident. The more we know of their character, the

greater is our confidence in their efficacy. Hence the increasing reputation of various watering places.

Unless some system is pursued in taking the waters of these springs, the effects are not always in accordance with the high-wrought expectations of the invalid. Multitudes, who might have been benefited by a judicious administration of them, reap no advantages whatever in consequence of inattention to proper rules. It is chiefly by a topical use of the hot-spring water that the greatest and altogether most marvellous cures have been effected. Neuralgic complaints of an obstinate character have been known to yield to its influence, when all other measures were abortive. To insure the most marked success, however, it is necessary to be under the guidance of a person who has ascertained, by long observation, the exact state that the body should be in to receive it. Next in importance, the functional diseases of females are treated with great benefit and certainty by the medicated baths at the Hot Spring. Numerous instances might be cited, from elevated sources, to show what extraordinary success has attended the regular application of a forcible current. Thus many neuralgic, and those other affections alluded to, which are always troublesome and often incurable by ordinary means, are sometimes brought within a manageable sphere by the Hot Spring water, when all other efforts had failed.

Perhaps, however, much positive injury is done by this water, notwithstanding the established fact that great good is more frequently accomplished. But it is only, we apprehend, when the individual presumes upon his own scanty knowledge of its powers, that any bad effects are produced. No error needs more immediate correction than this, amongst the strangers who cluster together in astonishing numbers around the bath-house, viz., plunging in at all times, in all conditions, from the bed, the table, or when too much heated, or when cold, regardless of all consequences. There would be quite as much propriety in walking into the shop of an apothecary and helping oneself to anything upon the shelves, without advice, as heedlessly leaping into the pool at 106 degrees, or standing under the spout as long as the sensation proved agreeable. The sick stranger should neither bathe at the Hot, nor drink at the Red, the Blue or White Sulphur Springs, till his case has been investigated by a competent physician. Such, we are happy to announce, resides at each fountain, in whom implicit confidence may be placed—Dr. Goode at the Hot, and Dr. Moorman at the White Sulphur. Both these gentlemen have in contemplation a publication on the mineral waters of this country. Physicians in the northern States will be gratified with works from sources so respectable, to guide them in their advice to those whom they sometimes feel obliged to send away from home. Since chronic rheumatic affections have become unusually frequent at the North, and the Hot Spring has been so often found to be a sovereign remedy, the more extensively the fact is circulated, the more gratifying it will prove to the profession throughout that section of country.

Professor Bartlett, of Transylvania University.—A correspondent in the State of Tennessee, in a letter to the editor, speaks of our late neighbor, Dr. Bartlett, in the following terms. Though the praise bestowed may be thought a little exaggerated, it is well meant, and we should be the last to say that it is not well merited:—

"No scientific man was ever the object of greater admiration, or ever diffused, in the same time, more important and lasting benefits, than Prof. Bartlett. In connection with Professor Cross, of the same institution, he has done more to dispel the idle systems in medicine than all the medical teachers in this great valley. They have worsted empiricism in the West, and given increased dignity and higher standing to the profession of medicine. Professor Bartlett's work on Typhoid and Typhus Fevers should be in the hands of every practitioner of medicine.

Pelham, Tenn., July, 1843.

G. D. C., M.D."

Legalized Quackery.—Dr. Drake, in his travelling editorials, in the Western Journal, gives a curious account of the laws in Alabama with regard to the practice of medicine. If the statement had come from a source at all questionable, we should have considered it a hoax which had been put in circulation for the purpose of showing the public how carefully *pure* Thomsonism is watched and guarded by the State alluded to. "Alabama," says Dr. D., "has long had a law denying to those who practise medicine without a diploma or a license, the benefit of her courts in the collection of their debts. We do not suppose it has done any more good in this than in other States; but still it served as a theoretical expression in favor of science. Lately, however, it has been so modified as not to interfere with 'any persons' who practise on the 'botanical system of doctor S. Thomson;' provided, nevertheless, that they 'do not bleed, apply a blister of Spanish flies, administer calomel or any of the mercurial preparations, antimony, arsenic, tartar-emetic, opium or laudanum!' It would be difficult to say whether *doctor* Thomson's patent, or this law, is the more precious specimen of empiricism. It is marvellous that a people so enlightened as those of Alabama, should allow their statute book to be made ridiculous by such nonsense."

Mesmerism.—On the subject of this science, as now practised at the South, Dr. Drake remarks—"Alabama is not more thoroughly overrun with the disciples of *doctor* Thomson, than those of Dr. Mesmer. Anxious to have the phenomena of Mesmerism subjected to a rigid examination, the true separated from the false, and the public mind kept in a healthy condition in reference to both, we cannot but regret to see one travelling mountebank after another, traversing the south-west, for the purpose of extracting money from those who are credulous enough to believe that *he* can do anything in which men of sense will confide. It is truly unfortunate for Mesmerism that it should have fallen into such hands. Things are coming to that kind of pass, that we shall soon not be able to distinguish the pass of an impostor from the pass of a scientific Mesmerizer, and, in discouragement, pass the whole by; not even making it a pastime of a passable kind, as it was in days past; and when this happens, there is great danger that it will be passed over and fall into a somnambulic state, from which the passes of the most scientific hand may not awaken it, till the remembrance of what is now doing to degrade it has passed away."

Geological.—Dr. Henry Frost, a former correspondent of this Journal, relates the following circumstance as having occurred recently in Dorchester county, Maryland :—" At the house of Mr. William Jones, an old and respectable inhabitant of this village, a well was dug, forty-one feet deep, seven of which was through a solid rock, and beneath which was found (and is now in my possession) a piece of *cast iron, with traces upon it which prove it to be from an artificial and tasteful mould.* There is no evidence whatever that the soil where the well is, is *alluvial*, but quite the reverse. *Shells* were also found at the same depth. The water of this well is a *mineral water*, and abundant, and in a time of a drought sufficient to supply the whole village."

New York Hospital School of Medicine.—A medical school, we are informed, is about to be established, under the sanction of the governors of the New York Hospital, by the physicians and surgeons of that institution.

The lectures will probably commence early in September next, and will be continued regularly in future during two months in the spring, and two months in the autumn of each year.

Systematic courses, embracing most of the practical departments of the profession, will be given by Drs. Post, Buck, Watson, Swett, Griscom, and the Curator of the Hospital Museum, Dr. Sabine. These will be aided by clinical lectures and practical remarks at the bedside, by each of the physicians and surgeons during his regular course of duty; and probably also by a few lectures from some or all of the consulting physicians and surgeons of the institution.—*N. Y. Jour. of Med. and the Collateral Sciences.*

Medical Society of Nashville.—The physicians of Nashville have commenced a spirited organization under the above title, for the cultivation of medical science and the improvement of its members, as well as the establishment of a code of professional ethics. The Society has held several meetings, elected officers, and made altogether an auspicious beginning. Nearly all the physicians of Nashville are members. The officers of the Society are—Boyd M'Nairy, M.D., *President*; G. W. Dickinson, M.D., *Vice President*; A. H. Buchanan, M.D., *Corresponding Secretary*; R. C. K. Martin, M.D., *Recording Secretary*; and C. K. Winston, M.D., *Treasurer*. The officers are elected for one year.

The discussions that have taken place at the meetings of the Society displayed a zeal in the cause of medical learning, and a spirit of research, highly creditable to the members, and which augurs well for its good influence upon the profession. We hope this association will lead to the formation of similar societies in all the towns of the State.—*West. Med. and Surg. Journal.*

Indiana Medical Institute.—The Society of the Indiana Medical Institute, held its annual meeting on the first of May, 1843. The following officers were elected for the ensuing year :—Dr. Samuel Barbour, *President*; Dr. Wm. Bracken, *Vice President*; Dr. W. H. Martin, *Secretary*; Dr. J. Helm, *Treasurer*; Dr. Wm. Frame, *Librarian*; Drs. H. J. Sex-

ton, J. Helm, and Wm. Frame, *Censors*. The Board of Examination consists of the following gentlemen:—Dr. H. G. Sexton, *anatomy and physiology*; Dr. J. W. Trees, *materia medica*; Dr. R. Robins, *chemistry*; Dr. J. Helm, *Institutes and practice of medicine*; Dr. John Arnold, *surgery*; Dr. Wm. H. Martin, *obstetrics and diseases of women and children*.

Dr. Trees read the history of a case of disease of the great sympathetic nerve. Dr. Martin reported a case of obstinate constipation, attending a case of intermittent fever, which nothing would control but large doses of quinine. Dr. Robinson also reported a case of obstinate constipation. Dr. Arnold reported a case of inversion of the uterus, which had existed two years.—*Western Lancet*.

Death of Hahnemann.—Dr. Hahnemann, the founder of homœopathy, died in Paris, on the 9th of July, aged 88. The Commerce, alluding to his death, says—"Dr. Hahnemann was born in 1755, at Meissen, of poor parents, and owed his education to the great aptitude for learning he gave evidence of at the little school where he was first placed. He discovered in 1790 the new system which he afterwards designated homœopathy. He had the satisfaction of seeing his system, after half a century's existence, spread over every part of the globe; and just before his death he learned that homœopathy was about to have a chair at the University of Vienna, and the hospitals in all the Austrian States, at Berlin, and at London."

Fatal Rupture of the Trachea.—An infant, affected with bronchitis, threw its head violently backwards during a fit of coughing. On a sudden, emphysema was seen to extend rapidly through all the subcutaneous tissue in the neck, face, and a large part of the chest; and the child soon died. On opening the body a rupture was obvious in the first inter-cartilaginous space of the trachea, extending transversely for four-fifths of an inch, and which was doubtless caused at the instant above indicated. No other lesion capable of producing death was discoverable.—*Schmidt's Jahrb, in London Lancet*.

BOOKS, &c., RECEIVED.—Dr. Moorman's notice of the White Sulphur Springs—Dr. Gilbert's biennial circular of the Private Medical Institute at Gettysburg, Pa.—Dr. Frost's report of a surgical case, in the Frederick "Olive Branch"—New York Journal of Medicine, from Jordan & Co., 121 Washington street, Boston.

MARRIED,—In Ashfield, Mass., May 2d, Stephen J. W. Tabor, M.D., of Shelburne Falls, to Miss Melvinia L. Knowlton, daughter of Charles Knowlton, M.D.—In Bedford county, Tenn., Geo. D. Callender, M.D., of Pelham, Tenn., to Miss Mary C. Hopper.

DIED,—At St. Andrews, L. C., Dr. Abner Rice, 74, a native of Shrewsbury, Mass.—In Cincinnati, Ohio, Richard Eberle, M.D., 33.—At Columbia, Conn., Dr. Warren A. Fuller, 42.

Number of deaths in Boston, for the week ending Aug. 5, 33.—Males, 20—Females, 13. Stillborn, 1. Of consumption, 5—Inflammation of the lungs, 2—infantile, 2—Inflammation of the bowels, 3—cholera infantum, 1—marasmus, 1—hemorrhage, 1—drowned, 1—erysipelas, 2—disease of the brain, 1—diarrhea, 1—hooping cough, 4—fits, 1—bursting bloodvessel, 1—rheumatic fever, 1—child-bed, 1—smallpox, 1—dropsey on the brain, 2.
Under 5 years, 14—between 5 and 20 years, 2—between 20 and 60 years, 15—over 60 years, 1.

Statistics of Bethlem Hospital, with Remarks on Insanity. By JOHN WEBSTER, M.D.—In this paper (read before the Royal Medical and Chirurgical Society) the author brought before the Society a few statistical tables compiled from the registers of Bethlem Hospital, accompanied by a synopsis of seventy dissections recently performed at that institution.

According to these tables, it appears that 4404 curable patients of both sexes were admitted during the last 20 years, of whom 1782 were males, and 2622 were females—thus giving 47 per cent. more women than men. During the same period, 1446 female patients were discharged cured, that is, 55 1-7 per cent. on the admissions; whilst only 823 male patients left the hospital convalescent, or 46 1-5 per cent. On the other hand, the number of deaths in both sexes, although exactly equal, or 112 of each, yet calculated according to their respective admissions, the rate among the male patients was 6 1/4 per cent., and only 4 1/4 per cent. among the females. Similar results were likewise found to prevail among the incurable lunatics of both sexes. The author therefore concludes that insanity is not only more common among women than men, but also a more curable disease; so that, *ceteris paribus*, the prognosis may be considered as more favorable in female than in male patients. The diminished rate of mortality, and the greater proportion of recoveries, are also clearly shown by the records of the institution; since it appears that during the three years ending the 21st Dec. 1752, the proportion of patients discharged cured was only 31 1/4 per cent. on the total admissions; whilst for the three years ending Dec. 31, 1842, the cures amounted to nearly 55 per cent. The ratio of deaths, also, during the former period, was as high as 25 1/2 per cent.—but only 5 5-8 during the last named three years, that is, about one-fifth the amount reported nearly a century ago.

The author next remarks on the diminished number of suicides in the insane patients admitted into Bethlem; observing, at the same time, its greater frequency among males than females.

A synopsis is then given of seventy dissections recently made by Mr. Lawrence, in which the various morbid appearances met with are carefully detailed.

The author concludes his paper with an allusion to the two sections of pathologists at present dividing the opinions of medical writers respecting the diseased alterations of structure met with in cases of insanity, viz., the "anatomists and vitalists," the former considering them as causes, the latter only as consequences, of the previous mental affection. In his opinion the theory of the anatomists is the more rational, and most in accordance with the present state of our knowledge of the pathology of mania.—*London Medical Gazette.*

Ovarian Dropsy.—Our correspondent, Mr. Walne, has recently removed, with success, another dropsical ovary, in its entire state, by the large abdominal section. It weighed sixteen pounds and three-quarters. Some circumstances having occurred in the course of the patient's recovery, giving a fresh interest to the subject, the particulars will shortly be submitted to the profession. Mr. Walne's former case has been too recently before our readers to have escaped their recollection. The patient, we are informed, now enjoys excellent health and spirits, walks long distances, and experiences no kind of inconvenience as a consequence of the operation performed in the early part of November last.—*Id.*